ELSEVIER

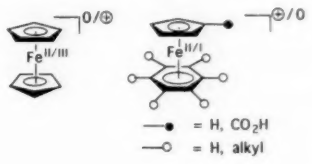
Volume 291, Numbers 1–2, August 1999

Inorganica Chimica Acta

Contents

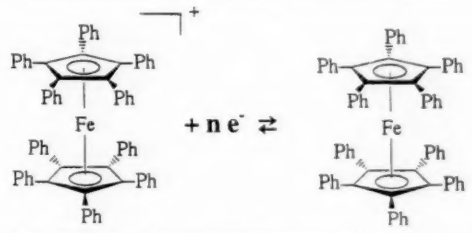
Review

Organometallic electron reservoir sandwich iron complexes as potential agents for redox and electron transfer chain catalysis 1
M.-H. Delville

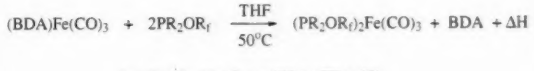


Articles

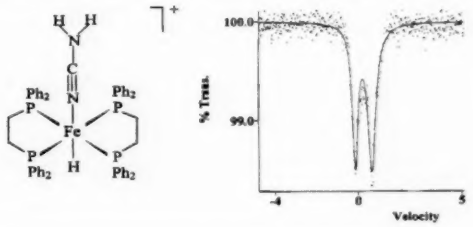
Novel features associated with the electrochemically driven bis(η^5-pentaphenylcyclopentadienyl)iron(II)–iron(III) redox transformation at an electrode–microcrystal–solvent (electrolyte) interface 21
A.M. Bond, A. Lamprecht, V. Tedesco, F. Marken



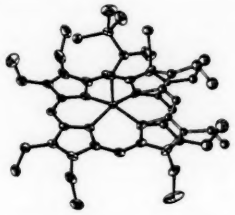
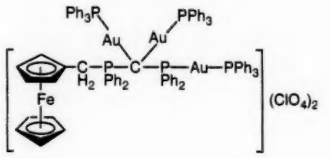
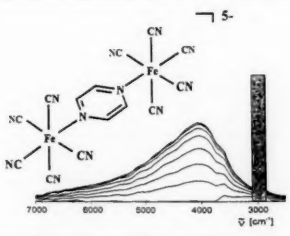
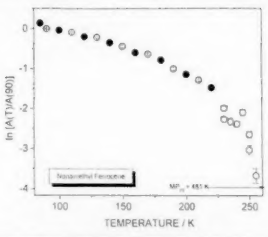
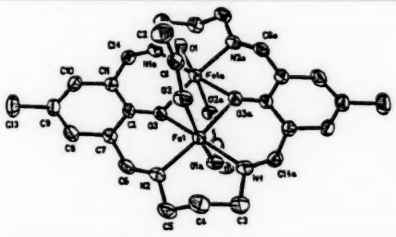
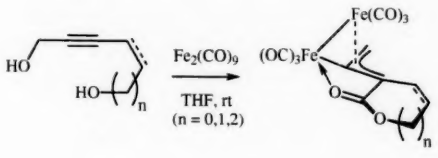
Solution thermochemical study of ligand substitution reactions of hybrid alkyl/fluoroalkoxy phosphorus ligands in the $L_2Fe(CO)_3$ system 32
C.M. Haar, S.P. Nolan



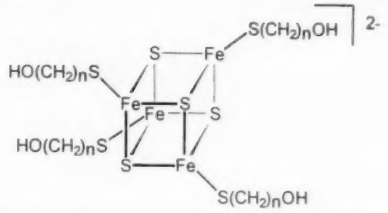
Syntheses, properties and Mössbauer studies of cyanamide and cyanoguanidine complexes of iron(II). Crystal structures of *trans*-[FeH(NCNH$_2$)(Ph$_2$PCH$_2$CH$_2$PPh$_2$)$_2$][BF$_4$] and *trans*-[Fe(NCNEt$_2$)$_2$(Et$_2$PCH$_2$CH$_2$PEt$_2$)$_2$][BF$_4$]$_2$ 39
L.M.D.R.S. Martins, J.J.R. Fraústo da Silva, A.J.L. Pombeiro, R.A. Henderson, D.J. Evans, F. Benetollo, G. Bombieri, R.A. Michelin



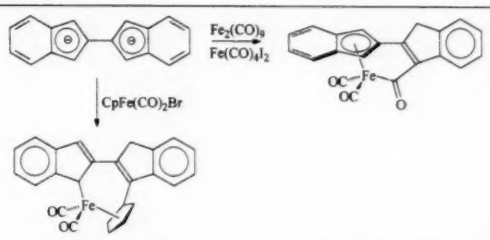
Elsevier Science S.A.

Conformational diversity in (octaethylporphinato)-(trichloroacetato)iron(III) derivatives . . . . . 49 T.J. Neal, B. Cheng, J.-G. Ma, J.A. Shelnutt, C.E. Schulz, W.R. Scheidt	
Synthesis of gold ferrocenyl substituted ylides and methanides: crystal structure of $[FcCH(AuPPh_3)PPh_3]ClO_4$ [Fc = $(\eta^5\text{-}C_5H_5)Fe(\eta^5\text{-}C_5H_4)$] . . . . . 60 E.M. Barranco, M.C. Gimeno, A. Laguna	
Widely differing stabilities of molecule-bridged cyanodi-iron(III, II) species in non-aqueous solvents . . . . . 66 M. Ketterle, W. Kaim, J.A. Olabe, A.R. Parise, J. Fiedler	
The quadrupole hyperfine interaction of iron organometallics: an interpretation of its temperature dependence . . . . 74 R.H. Herber	
Molecular orbital-theoretical studies of a dinuclear Fe(II)–Fe(III) complex . . . . . 82 C. Saal, M.C. Böhm, W. Haase	
New ferracyclic π-allyl and η^3-pentadienyl complexes by carbonylative lactonization of unsaturated diols. . . . . 91 R. Schobert, H. Pfab, A. Mangold, F. Hampel	

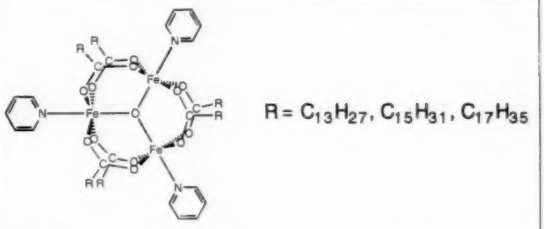
Lattice effects in the Mössbauer spectra of salts of $[Fe_4S_4\{S(CH_2)_nOH\}_4]^{2-}$. Crystal structures of $[PPh_4]_2$-$[Fe_4S_4\{S(CH_2)_nOH\}_4]$ ($n = 2$, 3 and 4) 101
J.E. Barclay, S.C. Davies, D.J. Evans, D.L. Hughes, S. Longhurst



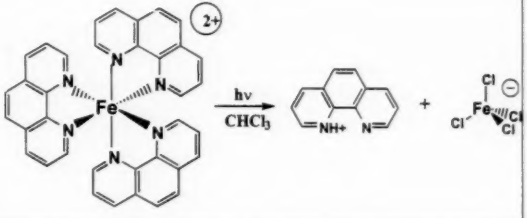
Novel organoiron compounds resulting from the attempted syntheses of dibenzofulvalene complexes 109
B.R. Waldbaum, R.C. Kerber



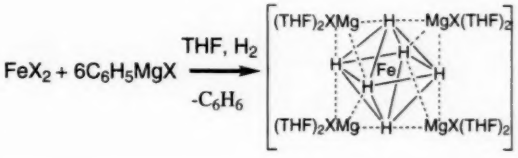
Mixed-valence states of iron long-chain carboxylate complexes 127
T. Nakamoto, M. Katada, H. Sano



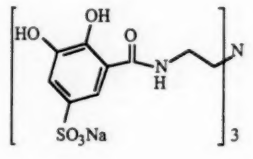
Kinetics of the photooxidation of tris(bipyridine)iron(II) in chloroform 136
T.H. Nguyen, P.J. Shannon, P.E. Hoggard



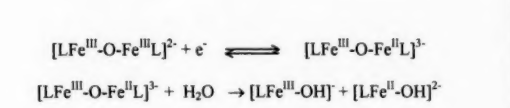
Soluble complexes of $[FeH_6]^{4-}$ 142
D.E. Linn Jr., G.M. Skidd, E.M. Tippmann



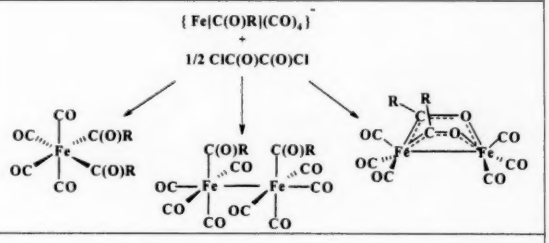
Thermodynamic and kinetic studies of the sulfonated derivative of the iron chelator TRENCAM, an analog of enterobactin 148
F. Thomas, C. Beguin, J.-L. Pierre, G. Serratrice



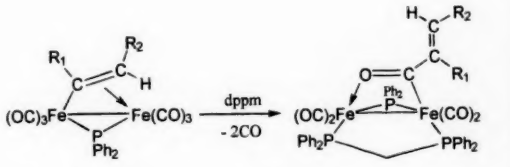
Solution studies of complexes of iron(III) with iminodiacetic, alkyl-substituted iminodiacetic and nitrilotriacetic acids by potentiometry and cyclic voltammetry 158
J. Sanchiz, P. Esparza, S. Dominguez, F. Brito, A. Mederos



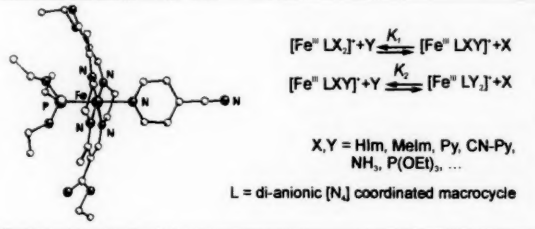
Synthesis of bis-(acyl, carbamoyl or alkoxycarbonyl) iron monomer or dimer complexes by reaction of oxalyl chloride with various tetracarbonyl ferrates: $\{Fe[C(O)R](CO)_4\}^-$ . . 166
D. Luart, N. le Gall, J.-Y. Salaün, L. Toupet, H. des Abbayes



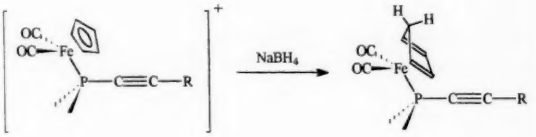
Reactions of σ-π alkenyl complexes $[Fe_2(CO)_6(\mu\text{-alkenyl})(\mu\text{-}PPh_2)]$ with bis(diphenylphosphino)methane (dppm); carbonyl substitution, migratory carbonyl insertion, phosphorus–carbon bond formation and cleavage, proton shift and alkenyl isomerisation reactions 178
G. Hogarth, K. Shukri, S. Doherty, A.J. Carty, G.D. Enright



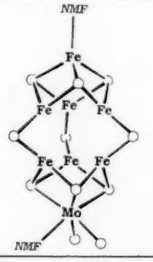
Iron(II/III) complexes of non-porphyrin macrocyclic $[N_4]^{2-}$ ligands: structure and axial reactivity 190
I. Käpplinger, H. Keutel, E.-G. Jäger



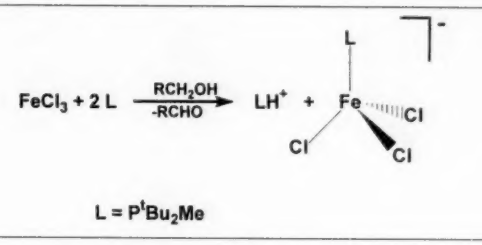
Reduction of cationic P-coordinated (diphenylphosphino)-alkyne iron complexes with sodium borohydride 207
E. Louattani, J. Suades



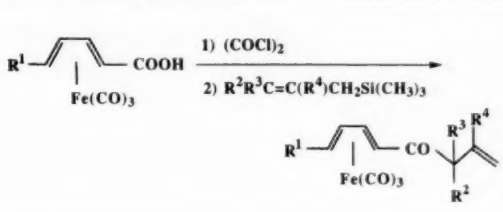
Protonation and substitution reactions of Fe–S 'basket' clusters including extracted FeMo-cofactor of nitrogenase . 212
V.R. Almeida, C.A. Gormal, K.L.C. Grönberg, R.A. Henderson, K.E. Oglieve, B.E. Smith



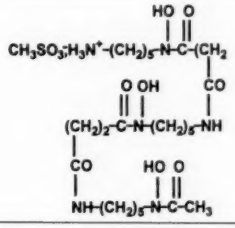
Synthetic approaches to Fe(II) complexes of the bulky phosphine P^{t}Bu$_2$Me 226
K.B. Renkema, M. Ogasawara, W.E. Streib, J.C. Huffman, K.G. Caulton



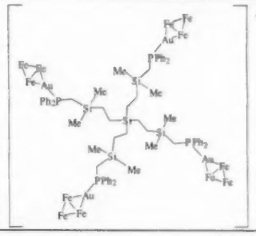
Transformation of the carboxyl group adjacent to the (η^4-diene)Fe(CO)$_3$ moiety: a convenient route to (η^4-diene)-Fe-(CO)$_3$ complexes containing α,β- and β,γ-unsaturated carbonyl groups, and 1,3-dicarbonyl groups 231
S.Nakanishi, K. Kumeta, T. Takata



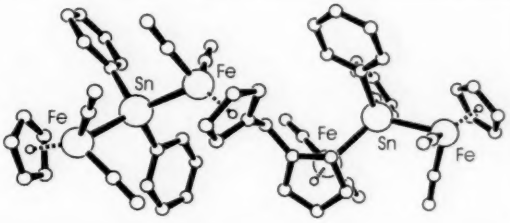
New chelating agents suitable for the treatment of iron overload 238
A.E. Martell, R.J. Motekaitis, Y. Sun, R. Ma, M.J. Welch, T. Pajeau



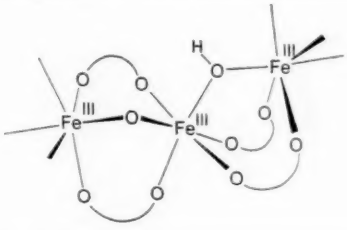
Carbosilane dendrimers functionalized with AuFe$_3$ clusters 247
M. Benito, O. Rossell, M. Seco, G. Segalés



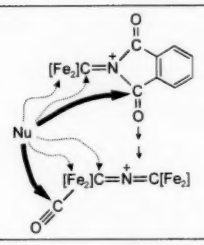
Synthesis of hexametallic CH$_2${(η^5-C$_5$H$_4$)Fe(CO)$_2$SnPh$_2$(η^5-C$_5$H$_5$)Fe(CO)$_2$}$_2$ 252
P. McArdle, L. O'Neill, D. Cunningham



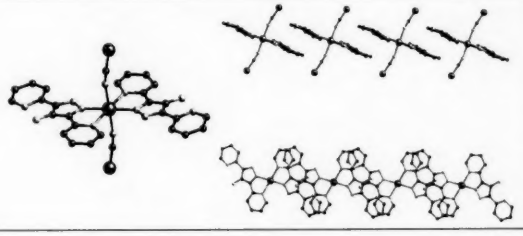
The molecular and electronic structure of the asymmetric, trinuclear complex [LFe^{III}(μ-O) (μ-piv)$_2$Fe^{III}(μ-OH)(μ-piv)$_2$Fe^{III}(piv)$_2$]·C$_6$H$_5$CH$_3$ (L = 1,4,7-trimethyl-1,4,7-triazacyclononane, piv = pivalate(1-)) 258
H. Hummel, E. Bill, T. Weyhermüller, K. Wieghardt



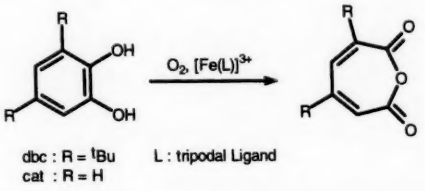
Reaction patterns of 'tetraferrio-azaallenium' $[(OC)_3Cp_2Fe_2(\mu_4\text{-}C{=}N{=}C)Fe_2Cp_2(CO)_3]^+$, and its 'activated cyanide'-precursor (μ-phthalimidocarbyne)tricarbonyldicyclopentadienyldiiron(1 +) 266
K.-H. Trylus, U. Kernbach, I. Brüdgam, W.P. Fehlhammer



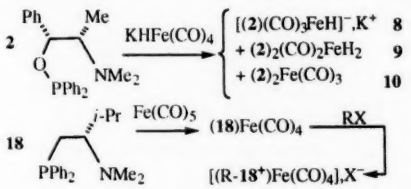
Spin-crossover in the $[Fe(abpt)_2(NCX)_2]$ (X = S, Se) system: structural, magnetic, calorimetric and photomagnetic studies 279
N. Moliner, M.C. Muñoz, S. Létard, J.-F. Létard, X. Solans, R. Burriel, M. Castro, O. Kahn, J.A. Real



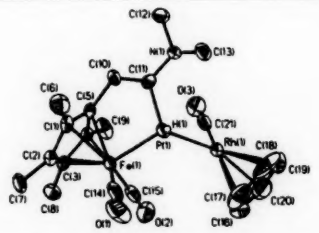
Novel iron(III) complexes with imidazole containing tripodal ligands as model systems for catechol dioxygenases 289
M. Pascaly, M. Duda, A. Rompel, B.H. Sift, W. Meyer-Klaucke, B. Krebs



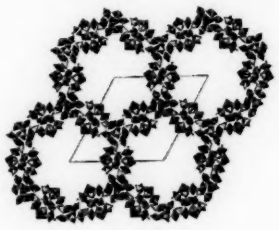
Aminophosphanes derived from chiral β-aminoalcohols and carbonyliron complexes thereof 300
J.-J. Brunet, R. Chauvin, J. Chiffre, B. Donnadieu, S. Huguet, P. Leglaye, E. Mothes



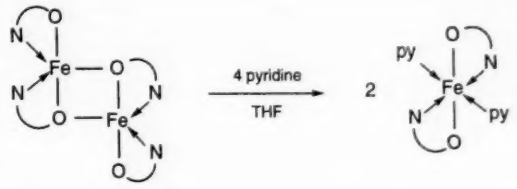
On the contrasting reactivity of the phosphaalkene $[(\eta^5\text{-}C_5Me_5)(CO)_2FeP{=}C(NMe_2)_2]$ and the arsaalkene $[(\eta^5\text{-}C_5Me_5)(CO)_2FeAs{=}C(NMe_2)_2]$ towards $[(\eta^5\text{-}C_5H_5)Rh(CO)_2]$ 311
L. Weber, M.H. Scheffer, H.-G. Stammler, B. Neumann



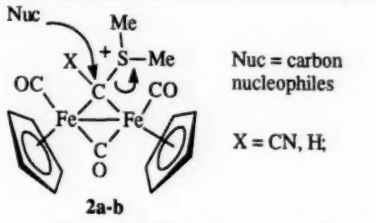
Magnetic iron phosphates with an open framework 317
M. Riou-Cavellec, D. Riou, G. Férey



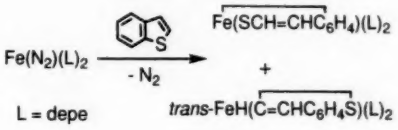
Bisphenolate iron(II) complexes with intramolecularly coordinating nitrogen Lewis bases 326
J.A.M. Brandts, M.D. Janssen, M.P. Hogerheide, J. Boersma, A.L. Spek, G. van Koten



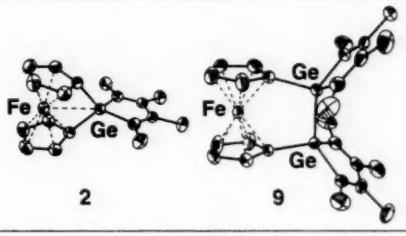
The μ-sulfonium–methylidene diiron complexes $[Fe_2\{\mu\text{-}C(X)SMe_2\}(\mu\text{-}CO)(CO)_2(Cp)_2]SO_3CF_3$ (X = CN, H) as precursors of μ-alkylidene complexes 333
S. Bordoni, L. Busetto, M.C. Cassani, A. Palazzi, V. Zanotti



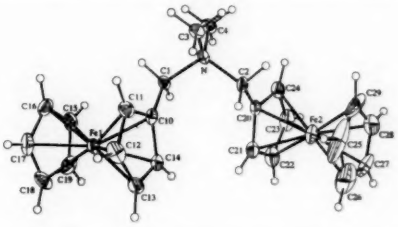
C–S, C–H, and N–H bond cleavage of heterocycles by a zero-valent iron complex, $Fe(N_2)(depe)_2$ [depe = 1,2-bis(diethylphosphino)ethane] 341
T. Morikita, M. Hirano, A. Sasaki, S. Komiya



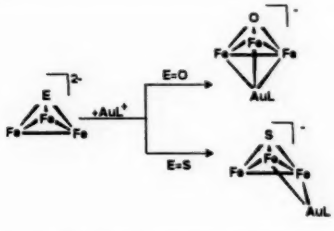
Germanium-containing ferrocenes and ferrocenophanes. Potential precursors for ring-opening polymerizations and 'germaferrocenes' 355
S. Zürcher, V. Gramlich, A. Togni



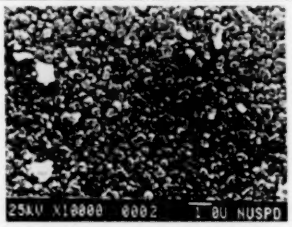
Effects of β-cyclodextrin inclusion on the kinetics of the oxidation of bisferrocenyl cations by bis(pyridine-2,6-dicarboxylato)cobaltate(III) in aqueous solution: crystal structure of dimethyldi-(1-methylferrocene)ammonium bromide . . . 365
D.H. Macartney, A.W. Roszak, K.C. Smith



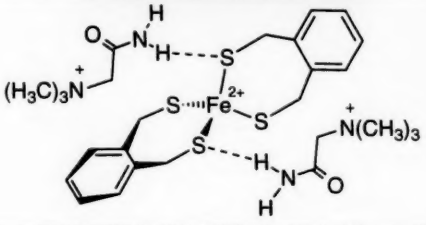
Synthesis and structural characterization of $[NEt_4][Fe_3(\mu_3\text{-}O)(\mu_3\text{-}AuPPh_3)(\mu\text{-}CO)_3(CO)_6]$, the new $[Au_6(\mu_3\text{-}S)_2(PPh_3)_6]$-$[Fe_3(\mu_3\text{-}S)(\mu\text{-}AuPPh_3)(CO)_9]_2$ and $[Au_6(\mu_3\text{-}S)_2(PPh_3)_6]$-$[Fe_5(\mu_3\text{-}S)_2(CO)_{14}]$ ionic solids containing assemblages of cluster-cations and cluster-anions 372
V.G. Albano, C. Castellari, C. Femoni, M.C. Iapalucci, G. Longoni, M. Monari, M. Rauccio, S. Zacchini



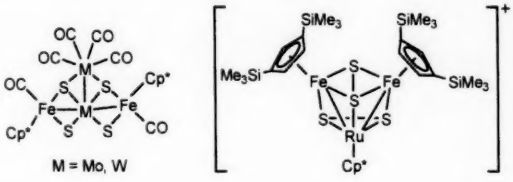
Formation of FeSi and $FeSi_2$ films from *cis*-$Fe(SiCl_3)_2(CO)_4$ by MOCVD – precursor versus substrate control 380
C.E Zybill, W. Huang



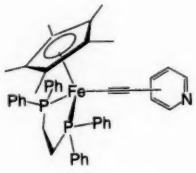
Effect of N–H···S amide–thiolate hydrogen bonding on bond lengths in rubredoxin models $[(CH_3)_3NCH_2CONH_2]_2[M(S_2\text{-}o\text{-}xyl)_2]$ 388
W.P. Chung, J.C. Dewan, M. Tuckerman, M.A. Walters



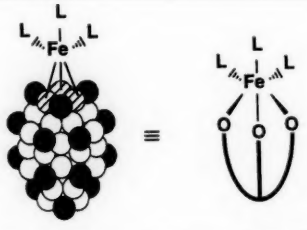
Cluster synthesis by the reactions of $[Cp'_2Fe_2S_4]$ with transition-metal complexes ($Cp' = C_5Me_5$, $1,3\text{-}C_5H_3(SiMe_3)_2$) . . 395
M. Yuki, K. Kuge, M. Okazaki, T. Mitsui, S. Inomata, H. Tobita, H. Ogino



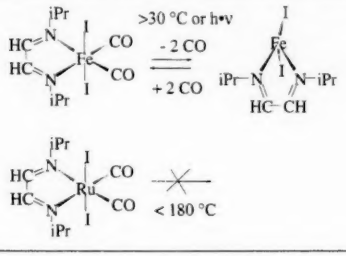
Redox active organoiron alkynyl centers with a coordination site: an approach toward molecular plugs. Complexation reactions with $(THF)W(CO)_5$ and $(PhCN)_2MCl_2$ (M = Pd, Pt) 403
S. Le Stang, F. Paul, C. Lapinte



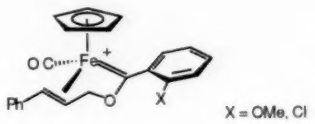
A polyoxoanion-based iron(II) catechol extradiol dioxygenase: oxygenation of 3,5-di-tert-butylcatechol by the polyoxoanion supported iron(II) complex $(n\text{-}Bu_4N)_7[(CH_3CN)_x\text{-}Fe^{II}\cdot P_2W_{15}Nb_3O_{62}]$. 426
H. Weiner, Y. Hayashi, R.G. Finke



Comparing structures and reactivity in analogous Fe and Ru complexes. (^{i}Pr-DAB)$Fe(CO)_2I_2$ and (^{i}Pr-DAB)FeI_2: a perfectly reversible CO-carrier system. (R-DAB = *N*,*N*′-R_2-1,4-diaza-1,3-butadiene) 438
J. Breuer, H.-W. Frühauf, W.J.J. Smeets, A.L. Spek



Chemoselective synthesis of (allyloxy)carbene chelate complexes of iron 449
C. Schulz, M. Tohier, S. Sinbandhit, V. Guerchais



Conference Calendar 453
Author Index of Volume 291 455

The publisher encourages the submission of articles in electronic form thus saving time and avoiding rekeying errors. Please refer to the online version of the Guide for Authors at http://www.elsevier.nl/locate/ica

CONTENTS direct

This journal is part of **ContentsDirect**, the ***free*** alerting service which sends tables of contents by e-mail for Elsevier Science books and journals. You can register for **ContentsDirect** online at: **www.elsevier.nl/locate/contentsdirect**

http://ChemWeb.com
The World Wide Club for the Chemical Community
http://chemweb.com/gateways/elsevier.html